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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,539	11/15/2007	Takahiko Yoshida	2691-000055/US	2989

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EXAMINER	
GALT, CASSI J	

ART UNIT	PAPER NUMBER
3662	

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03/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,539	YOSHIDA ET AL.	
	Examiner	Art Unit	
	CASSI GALT	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12,13,15-19 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12,13,15-19 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/11/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 12/11/2008 was filed after the mailing date of the first action on 9/11/2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-10, 12, 13, 15-19, 21, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amano ("Investigation on the Matching Characteristics of EM-Wave Absorber Mounted Conductive Patterns") in view of Matsuo (JP 11-204984).

Regarding claims 1, 21, and 24, Amano teaches an electromagnetic wave absorber comprising: element receiving means provided with a plurality of conductor elements ("Conductive Patterns" Fig. 2) having predetermined resonant frequencies (ab. lines 3-5) and including first and second types of conductor elements (cross and

square shapes, Figs. 1 and 2), the conductor elements being arranged spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves (see Fig. 2, esp. "Incident Wave"), and being substantially polygonal (see Figs. 1 and 2), and a loss material ("Lossy Material", Fig. 2) provided close to the element receiving means.

Regarding "performing the same or different receiving operations", Amano's Fig. 2 shows that conductor elements *1* ... *5* receive (and absorb) an incident wave and therefore may be said to perform a "receiving operation". Further, the receiving operations performed by the first and second types of conductor elements must *necessarily* be one of the same or different. In Amano's Fig. 1 Case III and IV, the conductor elements have different shapes, and therefore appear to have *different* absorptive properties, or receiving operations.

Amano does not teach that the plurality of conductor elements have one or more arc shape corners, or that all corners are arc-shaped. However, electromagnetic wave absorber conductor elements having arc shaped corners are well known. For example, Matsuo teaches an electromagnetic wave absorber using conductor elements having arc shaped corners (Figs. 4 and 8). Matsuo teaches that the arc shaped corners of Figs. 4 and 8 result in different absorption properties than the square corners of Fig. 3 (see Tables 1-5). It would have been obvious to modify Amano by shaping one or more or even all of the corner portions of the conductor elements in an arc shape in order to attain different absorption properties.

Regarding claims 2 and 22, Amano teaches that the conductor elements are arranged in layers (l1, l2, Fig. 1, and l1, l2, l3, l4, l5, Fig. 2) in the incoming direction of electromagnetic waves ("Incident Wave", Fig. 2).

Regarding claims 3 and 15, Amano teaches an electromagnetic wave reflecting means ("Conductive Plate", Fig. 2) disposed on a side opposite to a side from which electromagnetic waves are incident.

Regarding claims 4-7, 10, 12-13, 16, and 18-19, the claims features are well known. It would have been obvious to further modify Amano with said features because they are merely what one would expect to find in an electromagnetic wave absorber.

Regarding claims 8 and 17, Amano teaches that conductor elements are shaped like crosses and quadrangles (Fig. 1 Case III and IV), that the cross and quadrangular conductor elements are arranged in a direction intersecting the incoming direction of electromagnetic waves (see Fig. 2, esp. "Incident Wave"), that the cross conductor elements are arranged in a regular manner (see Fig. 1 Case III and IV), and that the quadrangular conductor elements are arranged so as to fill in the areas surrounded by the cross conductor elements (Fig. 1 Case III and IV shows that portions of the quadrangular shaped elements fill the areas surrounded by the cross conductor elements).

Regarding claim 9, Amano's Fig. 1 Case III and IV shows that cross conductor elements are arranged such that radially extending portions are faced with each other, and that the quadrangular elements are square shaped, as are the areas surrounded by the cross conductor elements.

4. Claims 1-7, 10, 12-13, 15-16, 18-19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okano (JP 2004-140194) in view of Matsuo (JP 11-204984).

Regarding claims 1, 21, and 24, Okano teaches an electromagnetic wave absorber comprising: element receiving means provided with a plurality of conductor elements (17a, Figs. 1-3, 7-10), where paras. 32, 34, and 35 teach that different conductor elements have different resonant frequencies, and including first and second types of conductor elements (triangles, circles, squares, Fig. 10; also, Fig. 9 shows different types of conductor elements in cross section), the conductor elements being arranged spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves (see Figs. 9 and 10), and being substantially polygonal (see Figs. 9 and 10), and a loss material (19a, Fig. 3b, and para. 21) provided close to the element receiving means.

Regarding "performing the same or different receiving operations", paras. 32, 34, and 35 teach that different conductor elements perform different receiving operations, in as much as they absorb different radiation frequencies.

Okano does not teach that the plurality of conductor elements have one or more arc shape corners, or that all corners are arc-shaped. However, electromagnetic wave absorber conductor elements having arc shaped corners are well known. For example, Matsuo teaches an electromagnetic wave absorber using conductor elements having arc shaped corners (Figs. 4 and 8). Matsuo teaches that the arc shaped corners of Figs. 4 and 8 result in different absorption properties than the square corners of Fig. 3 (see Tables 1-5). It would have been obvious to modify Okano by shaping one or more or even all of the corner portions of the conductor elements in an arc shape in order to attain different absorption properties.

Regarding claims 2 and 22, Okano teaches that the conductor elements are arranged in layers in the incoming direction of electromagnetic waves (see Figs. 9a and b).

Regarding claim 3 and 15, Okano teaches electromagnetic wave reflecting means (13, Fig. 3b).

Regarding claims 4-7, 10, 12-13, 16, and 18-19, the claims features are well known. If not taught by Okano, it would have been obvious to further modify Okano with said features because they are merely what one would expect to find in an electromagnetic wave absorber.

Regarding claim 23, Okano teaches a third type of conductor element, namely the conductor elements forming the middle layer in Fig. 9b, spaced away from what may be considered first and second types of conductor elements, the out layers of conductor elements shown in Fig. 9b.

Response to Arguments

5. Applicant's arguments filed 12/11/2008 have been fully considered but they are not persuasive.

Regarding Applicant's argument that Examiner did not show that Amano in view of Matsuo teaches or suggests "performing the same or different receiving operations", Examiner apologizes for not explicitly addressing this feature. To clarify for the record, Amano's Fig. 2 shows that conductor elements *1* … *5* receive (and absorb) an incident wave and therefore may be said to perform a "receiving operation". Further, the receiving operations performed by the first and second types of conductor elements must *necessarily* be one of the same or different. In Amano's Fig. 1 Case III and IV, the conductor elements have different shapes, and therefore appear to have *different* absorptive properties, or receiving operations.

Regarding Applicant's argument that Examiner has not demonstrated that the cited art reads up "a first type and a second type of conductor elements", Examiner

again respectfully disagrees. Amano's crosses and squares (Fig. 1 cases II, III, and IV) are clearly separate, or first and second, types of conductor elements. See, in particular, the cross section view at the far right side of Fig. 1, where the crosses and squares are separately designated as "2" and "1", respectively.

Regarding Applicant's argument that Examiner has not demonstrated that the types are "spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves", Examiner again respectfully disagrees. It is true that Amano's Figures show crosses and squares layered one on top of the other, but Examiner does not agree that this arrangement fails to meet the claim language. The claim states: "a first type and a second type of conductor elements having resonant frequencies, to perform the same or different receiving operating, *the element receiving layer conductor elements being spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves*" (emphasis added). The claim does not state, as Applicant appears to be arguing, that the first type of conductor elements are spaced apart from the second type of conductor elements with no overlap between the two. The claim states only that the conductor elements are spaced away from each other, and Examiner believes that Matsuo's arrangement satisfies this limitation, with crosses spaced away from other crosses, and squares spaced away from other squares.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSI GALT whose telephone number is (571)270-1469. The examiner can normally be reached on Mon-Fri 7:30AM-5:00PM, Alt. Fri, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

3/11/2009

/C. G./
Examiner, Art Unit 3662

/Thomas H. Tarcza/
Supervisory Patent Examiner, Art Unit 3662